

Application No.: 09/806,775

Docket No.: 20386-00294-US

REMARKS

Claims 22-24 and 27-35 are pending. Claims 22, 24 and 27 are amended herein. Claims 1-21 and 25-26 are canceled without prejudice or disclaimer. Claims 28-35 are new.

Claim Amendments

New independent claims 28 and 33 more precisely claim the subject matter previously presented in canceled claims 21 and 25. More particularly, claim 28 recites "introducing oxygen to the flame" and states that "after passing said common nozzle, said first and second components react with each other and said oxygen to form multicomponent particles". Support for this subject matter is found, for example, on page 5, lines 6-12 of the original specification. Claim 33 recites "an oxygen tube arranged to introduce oxygen to the flame" and a common nozzle "arranged in such a way that, after passing said common nozzle, said first and second components react with each other and said oxygen to form multicomponent particles". Support for this subject matter is found, for example, on page 5, lines 6-12 of the original specification.

New claims 29-31 and 33-34 depend from claims 28 and 33, respectively. Claims 29 and 34 are supported, for example, by page 4, lines 16-17 of the original specification. Claim 30 is supported, for example, by page 5, lines 5-6 of the original specification. Support for claims 31, 32 and 35 is found, for example, in lines 1-6 of page 5 of the original specification.

Claims 22 and 24 have been amended to depend from claim 28. Claim 27 has been amended to depend from claim 33. No new matter has been added.

Rejections - 35 U.S.C. §112

Applicants respectfully request withdrawal of the rejection of claims 23-24 under 35 U.S.C. §112, second paragraph, as being indefinite because the first and second components recited in these claims do not "combine" as suggested in canceled base claim 21. New base claim 28 is written such that it is clear that the first and second components refer to components fed to the flame, and claim 28 states that "said first and second components *react* with each other

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and said oxygen to form multicomponent particles" (emphasis added). Applicants submit that the language in claim 28 overcomes the Examiner's rejection of claims 23 and 24 under §112.

Rejections - 35 U.S.C. §102

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 21-22 and 25-27 under 35 U.S.C. §102(b) as being clearly anticipated by FI 98832.

Claims 21 and 25-26 have been canceled, and the rejection of these claims is therefore moot.

In order for anticipation to exist, a reference must teach each and every element of a claimed invention. "The identical invention must be shown in as complete detail as is contained in the... claim". *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). New independent claim 28 recites: "introducing oxygen to the flame"; "introducing a first component to the flame in gaseous or vaporous form"; and "introducing a second component to the flame in liquid form". Thus, the claimed invention covers a process in which three components (oxygen, a liquid component and a gaseous/vaporous component) react to produce multicomponent particles. FI 98832 does not teach or even suggest adding an additional component to oxygen and liquid components, as claimed in claim 28. Therefore, claim 28, and claims 22-24 and 29-32, which depend from claim 28, are allowable over FI 98832.

Claim 33 recites a spraying device including: "an oxygen tube arranged to introduce oxygen to the flame"; "a first gas tube arranged to introduce at least a first component to the flame in a gaseous or vaporous form"; and "a liquid tube arranged to introduce at least a second component to the flame in liquid form". FI 98832 does not teach or even suggest a gas tube arranged to introduce a first component to the flame in gaseous or vaporous form in addition to an oxygen tube arranged to introduce oxygen to the flame and a liquid tube arranged to introduce a second component to the flame in liquid form. Therefore, new claims 33-35 and claim 27, which now depends from claim 33, also define the invention over FI 98832.

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Applicants respectfully request reconsideration and withdrawal of the rejection of claims 21 and 25-27 under 35 U.S.C. §102(b) as being anticipated by Takahashi (US Patent 4,388,098).

Claims 21 and 25-26 have been canceled, and the rejection of these claims is therefore moot.

Claim 28 recites "introducing an atomizing gas to a common nozzle for atomizing said second component, wherein said first component, said second component, said oxygen and said fuel gas are introduced to the flame with said common nozzle". Thus, it is clear from claim 28 that atomization of the second (liquid) component is carried out at the nozzle. To the contrary, in Takahashi, nebulization is clearly carried out upstream from the nozzle. Thus, claim 28 and dependent claims 22-24 and 29-32 are distinguished over the Takahashi apparatus.

New claim 33 recites "a second gas tube arranged to introduce an atomizing gas to said common nozzle for atomizing said second component," thus clarifying that atomization of the liquid occurs at the nozzle, as opposed to upstream of the nozzle as disclosed by Takahashi. Therefore, claims 33-35 and dependent claim 27 are also defined over Takahashi.

Rejections - 35 U.S.C. §103

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 22 under 35 U.S.C. §103(a) as being unpatentable over Takahashi.

In order for a claimed invention to be obvious, all of the claim recitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 974). As established above, Takahashi fails to teach or suggest the invention of claim 28 because Takahashi does not disclose or suggest atomization of the liquid at the nozzle of the device. Thus, claim 28 is not obvious in view of Takahashi. Claim 22 depends from claim 28, and is therefore also allowable over Takahashi.

Claims 33-35 also recite a device in which atomization of the liquid occurs at the nozzle, and are therefore non-obvious in view of Takahashi.

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Applicants respectfully request reconsideration and withdrawal of the rejection of claims 21-24 under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Ainsle (US Patent 4,923,279).

Claim 21 is canceled, and the rejection of claim 21 is therefore moot.

Takahashi fails to teach or suggest the invention of claim 28 for the reason provided above. There is no teaching in Ainsle to overcome the difference between claim 28 and the Takahashi device regarding the location of atomization of the liquid. Therefore, claim 28 and dependent claims 22-24 are not obvious in view of Takahashi and Ainsle.

As previously discussed, new claims 33-35 also recite a device in which atomization of the liquid occurs at the nozzle. Thus, claims 33-35 are also non-obvious in view of a combination of Takahashi and Ainsle.

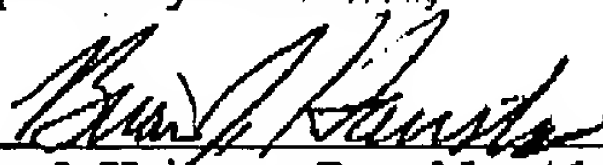
#### *Conclusion*

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20386-00294-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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